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1933.

January, 1933

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COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF MARYLAND

UNIVERSITY OF MARYLAND
U. S. DEPARTMENT OF AGRICULTURE
COOPERATING

EXTENSION SERVICE

VEGETABLE GROWERS' NEWS LETTER

Issued by
W. R. Ballard
Secretary - Treasurer

Vol. X. No. 1 College Park, Maryland. January, 1933

The Annual Meetings: The two morning sessions of the Annual Meetings were fairly well attended and considerable interest was manifested in the papers presented. These papers will of course appear in the Annual Report of the Association.

The Treasurer's report showed that all bills were paid and a small balance of $5.71 was in the bank.

The officers elected for 1933 are as follows:

President, W. N. Eyler, Flintstone,
Vice-President, S. S. Merritt, Jr., Sparrows Point,
Secretary-Treasurer, W. R. Ballard, College Park,
Directors: R. T. Merritt, Sparrows Point, R. F. D. Box 232,
W. P. Hotton, Salisbury,
James P. R. Edelen, Anacostia, R. F. D.
Delegate to Farm Bureau Federation, A. M. Todd, Sparrows Point,
Director to Farm Bureau Federation, Joshua Lynch, Hyde,
Representative on Agricultural Corporation, W. G. Lynch.

The Potato Show: The Third Annual State Show of Certified Potato seed stock was held in connection with the annual meetings in Baltimore. Twenty-six entries were made, all of these being Irish potatoes with the exception of three lots of sweet potatoes. Awards were made on a basis of uniform selection and relative freedom from disease.

The placings in the various classes were:

Rural Russet Class - first, Carl E. Everly, Accident; second, Merle Garletts, Selbysport; third, Orios M. King, Accident; fourth, A. H. Richter, Accident; fifth, Allan Kelly, Oakland; and sixth, G. W. Weitzell, Accident.

Irish Cobbler Class - first, W. A. Ward, Pocomoke; second, F. J. Dukes & Bros., Girdletree; third, E. F. Garletts, Selbysport; and fourth, Lester Shockley, Snow Hill.

Any other Variety - first, E. F. Garletts, Selbysport (Smooth Rural Dooley); second, Raymond Schlosnagle, Accident (Smooth Rural Mason); third, Samuel Hearn, Laurel (Jersey Redskin); fourth, Handy Truitt, Snow Hill (McCormick); fifth, H. J. Speicher, Accident (Smooth Rural Mason); and sixth, W. Cissel Simpson, Simpsonville (Jersey Redskin).

Sweet Potatoes, Any Variety: first, W. T. Hotton, Salisbury (Maryland Golden Sweet); second, F. J. Dukes, Girdletree (Big Stem Jersey); and third, Charles E. Dukes, Girdletree (Maryland Golden Sweet).

Growing Quality Horseradish: A method of producing horseradish in use in some parts of Europe, notably Bohemia results in a high grade product. It involves considerable handwork, but it would seem that hand labor could be cut down by some modifications of the method. The main features are: (1) the use of a twelve inch root cutting, (2) bedding it in almost a horizontal position (the larger end 3/4 to 1 inch below the surface, the other 3 to 4 inches), (3) removing the earth around the cutting about the last of June and rubbing off all small roots except those at the tip which grow straight down, (4) removing the original cutting in the fall for sale, (5) leaving the roots in the ground until spring when they are removed and used for cuttings. In Europe cuttings are set alternately 18 inches apart on opposite sides of a three foot bed. This involves hand labor for cultivating. It would seem feasible to set the cuttings in a line in rows far enough apart so that most of the cultivation could be done with the horse tools. A deep fertile soil is necessary and it should be heavily fertilized each year. The smooth, uniform product produced by this method should command a premium on the market, but whether this would pay for the additional labor could be determined only by a trial.

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VEGETABLE GROWERS' NEWS LETTER

Issued by
W. R. Ballard
Secretary-Treasurer.

Vol. X. No. 2. College Park, Maryland. February, 1933.

The Set of Lima Beans: At the Canners School recently held at the University, Dr. H. B. Cordner discussed the FACTORS AFFECTING THE SET AND YIELD OF LIMA BEANS. His studies led him to believe that blossoms were produced greatly in excess of the ability of the plant to mature pods. It seems likely that under normal conditions only about five percent of the blossoms may be expected to set and mature well filled pods. Variations in temperature and humidity had considerable effect on the setting of pods. Results of experiments indicate that best yields will be secured by planting the crop before June 7th or after June 28th. When plantings are made between June 7th and June 28th the weather conditions at blooming time are likely to be more unfavorable for setting a good crop than they would be either before or after this period.

One factor which was quite noticeable was that heaviest yields were generally produced on soils well supplied with organic matter. This apparently resulted from the stronger growth of plant rather than from a greater percentage of pods set.

In the discussion which followed it appeared that the cracking of the seeds in threshing had a direct bearing on the stand secured. A germination test seemed to give a reliable index to the sort of a stand one might expect from any given lot of seeds.

String Bean Tests: In tests of varieties of string beans for yield it appeared that good stocks of Giant Stringless may be expected to produce more heavily in Maryland than other varieties. Burpee Stringless, New Stringless, and Full Measure all gave satisfactory yields.

More Trouble For the Vegetable Grower: The revolt against the presence of spray residues on horticultural products is likely in the near future to affect the vegetable growers more than in years past. The problem for those investigating the subject will be the finding of non-poisonous spray materials which are sufficiently toxic to insects to affect control or to develop methods of removing spray residues so they will not affect their consumption. These problems are by no means simple and man's fight against the insect hordes may degenerate into a losing fight. However, necessity may still be the mother of invention and new weapons may soon be forthcoming.

Home Gardens: Economic conditions will force many farmers to give more attention to the home garden as a source of food than has been the custom under more prosperous times. In addition there is a strong movement on the part of the unemployed and the various relief agencies to develop emergency gardens. All these developments will have a bearing on the commercial production of vegetables. However, it is difficult to see how this curtailment in market demand is to be avoided and commercial producers should include this situation in their calculations.

It is probable that the low price level will in a measure work to the advantage of the local producer as long hauls will place growers at a distance at a considerable disadvantage.

Growers are casting about to see what changes in crops or methods gives promise of augmenting their income. So many uncertain factors are involved, however, that one man's guess is probably as good as anothers. It would seem the part of wisdom for the grower to go ahead with his plans for certainly if he raises no crops he will have nothing to sell. Efficient production is the key to use under the present situation.

Disinfecting Seed Potatoes: The United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C. has a surplus of MISCELLANEOUS PUBLICATION No. 53.* Copies may be had by addressing the Secretary of Agriculture, Washington, D. C.

Field Practice in Growing Tomatoes: In a study of 49 farms reported by H. A. Hunter, some interesting observations were made at the Canners School recently. Too much significance should not be given to these results because of the limited number of farms included. One point of interest, because it reenforces a practice long recommended by the University of Maryland, is that plantings before May 31st gave considerably higher yields than those at later dates.

Fertilizer applied before planting supplemented with side dressings seemed to give the best yields. Another result which corresponds with common knowledge is that quality is correlated with yields. The higher the yield the higher the percentage of the product falls in the number one grade.

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* Bulletin entitled DISINFECTING SEED POTATOES.

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VEGETABLE GROWERS' NEWS LETTER

Issued by
W. R. Ballard,
Secretary-Treasurer.

Vol. X. No. 3. College Park, Maryland. March, 193

Marketing Shelled Peas: For several years Mr. Thomas H. White of the Experiment Station has been trying to induce some grower of peas to take his vines to the vinery and market the shelled peas. However, no one seemed sufficiently interested in the proposition to give it a trial.

Now the Market Growers Journal reports that Mexican shelled peas are coming in through Nogales, Arizona and are being distributed. They are put up in cellophane bags and sell at forty cents per pound package. Of course this high price is due partly to the season of the year and would give little indication of what might be expected of Maryland grown peas at the normal period of harvesting. This, however, is just another indication that the grower who is always one step ahead of his competitors will find a responsive consuming public.

Hope for the Future: Many of the leading economists agree that one of the principal causes of the present plight of the farmer is not overproduction (with the possible exception of wheat and cotton), but under consumption due to unemployment and curtailed incomes. The primary solution, they think, is to furnish work for all. They have little faith in any legislation on behalf of the farmer, except perhaps to ease the tax and mortgage burden until better business conditions can be brought about. Theoretically the limitation of production would bring about the desired rise in commodity prices, but the problem practically is how to bring this about in such a way as to be effective without hardship for individuals, groups, or sections. This problem is also one which affects business and industry and no very effective solution in these fields has been developed, even though production can be controlled more quickly and easily than in the field of agriculture.

Composts: Truck growers feel keenly the lack of manure particularly for certain vegetable crops. Green manures help to some extent but at times one needs a supply of organic matter which can be concentrated in the hill. Leaf mold when available has been used to good advantage, but is frequently not accessible. Perhaps it would be feasible for some operators to develop artificial composts out of leaves, straw or other waste material. It is possible, by utilizing the latest information available to hasten the process of decay and thus to make the compost available sooner. In the possibility that this matter might be of interest to some of the members, a mimeograph sheet of instructions put out by Mr. F. W. Oldenburg, Extension Crop Specialist is being included with this News Letter.

MAKING ARTIFICIAL MANURE FOR THE HOME GARDEN

By
F. W. Oldenburg,
Extension Agronomist

Locate a compost heap in some secluded place. It may be built up on the surface of the soil, but it is better to have a pit a foot or two deep, preferably lined with cement. A good size for the home garden is 4' x 4'. It is best to have two such pits.

A compost heap may be started at any time of the year. Any organic matter may be used such as lawn clippings, leaves, weeds, waste vegetable parts, kitchen scraps and old straw and hay. If there is not enough material of this kind, a bale of peat moss will supply the deficiency. It is best to have two pits, owing to the fact that after building up a heap it takes about two months even in warm weather to complete the process; a new heap may be started in the meanwhile.

The compost heap should be built up evenly with a flat top so that it will catch all the rain possible. In dry weather it should be watered liberally and care taken to compact any loose material like leaves.

When the heap has attained a depth of at least a foot, lime at the rate of three to four pounds should be sprinkled over it. Hydrated lime and pulverized lime stone will be found convenient material. The former can be bought locally in fifty-pound bags and the latter in eighty-pound bags. After liming, an even layer of good top soil about an inch deep should be applied. Fertilizer should be sprinkled evenly over this soil. Four or five pounds of a complete fertilizer rich in nitrogen is suggested, such as a 7-6-5 or similar fertilizer usually used for early potatoes.

At least four or five such layers should be built up till the heap attains a thickness of about three feet. When it has reached the desired depth, it should be allowed to stand for several weeks, meanwhile starting another heap. It should then be forked over thoroughly. The forking should be repeated several times at intervals of two or three weeks, till the coarse material is well broken down. Keeping the heap moist and compact will hasten the process.

Cooperative Extension Work in Agriculture and Home Economics, Extension Service, University of Maryland and the U. S. Department of Agriculture, Cooperating.
T. B. Symons, Director.
(Distributed in furtherance of Acts of Congress of May 8 and June 30, 1914).

SUMMARY OF TALKS

GIVEN AT THE

CANNERS' AND FIELD MEN'S SCHOOL

College Park, Maryland

February 14th and 15th, 1933

ADDRESS OF WELCOME

by Dr. J. H. Beaumont, Head,

Department of Horticulture, University of Maryland

BEANS

Chairman - E. G. Cover, Easton, Maryland

Variety Tests and Frequency of Harvesting Snap Beans

by

W. A. Matthews, University of Maryland

Variety tests to determine the performance of a number of varieties and frequency of harvesting tests to determine the influence of different periods of harvesting snap beans were conducted at College Park and at Ridgely during the past season.

In the variety tests, Giant Stringless Green Pod produced the largest yield, with Burpee's Stringless Green Pod, New Stringless Green Pod and Full Measure producing slightly lower yields. The Konserva, a new introduction, and Stringless Green Refugee yielded only about 50% as high as the other varieties. Counts were made of the number of pods per pound for each variety as a measure of the relative sizes of the pods. On this basis the varieties ranked as follows, those with the smallest pods being listed first: (1) Konserva, (2) Stringless Green Refugee, (3) Giant Stringless Green Pod, (4) Full Measure, and (5) New Stringless Green Pod.

The frequency of harvesting test at Ridgely was conducted to determine the influence on yield and quality of harvesting once and twice a week according to the usual methods for the cut bean pack. The conclusions are that the quality, as measured by size of pods, and the yield are not sufficiently increased to justify the extra expense.

In the frequency of harvesting test conducted at College Park, an attempt was made to determine the influence of three- and six-day harvest periods, picking all pods larger than the No. 1 grade. Burpee's Stringless Green Pod was used. The yields from the plots harvested at the different intervals were practically the same. The three-day harvest interval resulted in 28% more of the No. 2 grade, 6% less of the No. 3 grade, 10% less of the No. 4 grade, and 15% less of the No. 5 grade than the six-day interval. This indicates that in picking for

the whole bean pack the quality is improved by the more frequent harvest period. A total of about 30% more time was required to harvest the crop at the three-day than at the six-day interval.

Factors Affecting the Set and Yield of Lima Beans

by

Dr. H. B. Cordner, University of Maryland

The problem of blossom drop has been given major consideration in detailed studies conducted primarily with the Henderson Bush lima bean over a period of four years. There appears to be a limit to the capacity of the individual flower stalks for setting and maturing fruit and this capacity is normally attained during the first few days of flowering, resulting in pods being set mainly on the lower third of the stalk. This condition apparently results from a deficiency of materials necessary for the set and development of fruit. By clipping off the buds at the base of the stalk, a set of pods was secured at the terminal nodes. Low temperature and high humidity are favorable and high temperature and a dry atmosphere are adverse to fruit set and yield.

In seedings made between May 10 and July 12, the June seedings, especially those made from June 7 to June 28, generally resulted in the lowest yields. This condition seems to be due to limiting the vine growth attained up to the flowering stage and to limiting the set of pods on the individual stalks by adverse weather conditions. If it is impossible to plant early, it would seem desirable to delay the planting at least until after the first of July.

Data secured on fertilizers and manures emphasizes the importance of maintaining fertility by the incorporation of organic matter. Stable manure is undoubtedly superior to green manure. Sodium nitrate was the most consistent material in producing yield increases.

By defoliating plants to the extent of one-third of the leaf area, the yield was reduced over 20%. The loss of the leaves directly associated with flower clusters reduced the set of pods on those clusters by about 50%. This relationship shows the necessity for controlling foliage-destroying pests. Substantial yield reductions may result from what appears to be only a slight or moderate infestation of the Mexican bean beetle.

LUNCHEON

Welcome to the University - Dr. R. A. Pearson, President, University of Maryland.

The Canner and the Experiment Station - Dr. H. J. Patterson, Director, Experiment Station.

The Canner and the Extension Service - Dr. T. B. Symons, Director, Extension Service.

Response from the Tri-State Packers - Allen T. Stevens, President, Tri-State Packers' Association.

TOMATOES

Chairman - Ralph O. Dulany, Fruitland, Maryland.

Tomato Farm Survey - Factors Affecting the Grade and Yield of Raw Stock.

by

H. A. Hunter, University of Maryland.

A field survey to determine the influence of practices used in tomato production on yield and grade of the raw product was conducted in 1932 on 49 farms in two communities on the Eastern Shore and in two in Western Maryland. The average yield of all fields was 4.3 tons per acre and the average grades of all deliveries were 46.6% No. 1's, 49.8% No. 2's, and 3.6% culls.

For field plantings made by May 31, between June 1 and 10, and between June 11 and 20, the average yields were 5.32, 4.32 and 3.54 tons, respectively, and the corresponding percentage of No. 1 tomatoes delivered were 53.5%, 45.8% and 39.8%. As the average yields increased above the State average there was a steady improvement in quality from 41.0% to 62.4% No.1's. Yields varied directly as the vine growth, being 5.61 tons for good growth, 3.86 tons for medium, and 2.45 tons for poor growth. The acreage of tomatoes per farm had little influence on the yield per acre, but there was a pronounced decrease in quality as the acreage increased.

There was a tendency for both the yield and quality to increase somewhat as the fertilizer application was increased, and there was a decided increase in yield over broadcast applications when at least part of the fertilizer was applied close to the plant, as in row and hill applications and side dressing. The percentage of No.1's picked by the farmer and his family was 44.2%; by hired day laborers, 54.5%; and by laborers paid by piece work, 40.0%. The Marglobe did not yield as high as plantings of mixed varieties but the percentage of No.1's was considerably higher.

Many other factors were studied but they did not have as great an influence on the yield and quality as those mentioned. Undoubtedly, the type of picking is the most important single factor influencing the grade of deliveries, but those practices which produce good plant growth and high yields also tend to increase the percentage of No. 1 tomatoes.

Buying Tomatoes on Grade

by

W. C. Lynn, New Jersey Department of Agriculture

The grading system for buying and selling tomatoes was tried in New Jersey experimentally for the first time in 1929. Four companies bought on grades in 1932, and more tomatoes were inspected for these than in any other state in the country. Inspection began August 1 and ended October 8. Inspections were made on 56,812 loads or approximately 9,000,000 baskets. Forty-one per cent of the loads were inspected between September 6 and September 16.

The average grades for the season were 58% No.1's, 39% No.2's and 3% culls. The average price paid the growers on the graded basis was 12% higher than the best flat rate paid in the State.

Sunburn was bad in late August and anthracnose was common in September, but, in general, the season was favorable for use of the graded basis and the system was agreeable to both canners and growers.

The canners had a clause in their contracts to the effect that loads containing over 10% culls could be rejected. At one factory, 2,500 loads, or 4½% of the deliveries, were rejected. The average grades of these loads were 25% 1's, 58% 2's and 17% culls.

Buying and selling on the graded basis is the fairest method of trade between canner and grower. The work during the past season shows that there is a three cornered relationship between the percentages of No.1's and No.2's and the quality of the finished product. Experiences during the season emphasize the need of work on improvement of production practices.

Tomato Fertilizers for the Coastal Plains.

by

Dr. H. H. Zimmerley, Director, Virginia Truck Experiment Station.

The results of fertility experiments with canning house tomatoes in Tidewater Virginia indicate that a complete fertilizer is required for maximum production. The maximum response is to phosphorus, followed by potash and nitrogen. Manure used in combination with a commercial fertilizer has given the largest yields.

Experiments have been conducted continuously since 1924 on soils similar to those of Eastern Maryland. From 1924 to 1927 the plots were on a Sassafras loam in a low state of fertility. The use of 10 tons of stable manure per acre in connection with 1000 lbs. of a 2-8-5 fertilizer doubled the yield secured from the use of the fertilizer alone. This indicates that the average grower can use his manure more advantageously on the tomato crop than on corn, wheat or grass. The highest yields from commercial fertilizer alone were obtained by the 4-10-6 and the 6-10-6 ratios applied at the rate of 1000 lbs. per acre.

The experiments with tomatoes from 1928 to 1932 were conducted on a fairly fertile sandy loam soil in rotation with wheat, clover and corn. The greatest response was obtained with phosphorus. The 4-0-6 mixture gave a yield of 5.15 tons; the 4-4-6, 8.77 tons; and the 4-8-6, 10.57 tons. In the potash variable series, the mixture containing 6% potash gave the highest average yields, but only slightly higher than that containing 4%. Four per cent nitrogen gave a significantly higher yield than no nitrogen. The 4-10-6 gave the highest yield, but not significantly higher than the 4-8-6, 4-10-4, or 2-10-6.

These results show that the materials contained in 800 to 1000 lbs. of a 4-10-6 fertilizer are needed per acre for maximum yields. For the more fertile soils, a 2-10-6 should be satisfactory. The use of 500 to 600 lbs. of a 2-8-5 furnishes only about one-half of the phosphorus necessary for maximum yields, and this deficiency alone would cut the yield almost two tons per acre.

When 800 to 1000 lbs. of fertilizer are used per acre, it appears advisable to apply 500 to 600 lbs. broadcast with a grain drill and the remainder near the plants after they are set. This should be mixed with the soil by deep cultivation because phosphorus and potash do not move downward to any great extent. Unless a fair amount of fertilizer is close to the plant to stimulate rapid growth, that applied broadcast may be of little value, particularly on poor soils.

Tomato Fertilizers for the Piedmont

by

Dr. R. P. Thomas, University of Maryland

The soils formed from the weathering of different types of materials vary in the amount of plant food elements contained, and for this reason proper fertilization is influenced by the type of soil. The Piedmont soils usually retain applied fertilizer elements longer than those of the Coastal Plains.

Manure furnishes fertilizer elements in an available form and should be used as much as possible. It is deficient in phosphorus, and this element must be added to form a balanced ratio.

Practically all of the Piedmont soils are deficient in phosphorus. This element is highly important in tomato production and should be used more freely than either nitrogen or potash. Units of either of the latter two elements should not be more than two-thirds of the phosphorus unit. A general rule for this area might be to use as much phosphorus in the fertilizer as nitrogen and potash combined. The fertilizer analyses best suited for the Piedmont vary according to the soil from an 0-16-0 to a 4-12-6.

Fertilizer is utilized more efficiently by the tomato plant when applied in the row or around the hill. An application of 300 lbs. close to the plant might serve the purpose of 500 to 1000 lbs. applied broadcast.

If lime is needed, apply small amounts frequently rather than a large amount at one time. Large applications, in the absence of sufficient fertility, may injure the crop.

The so-called rapid tests for plant food deficiencies are valuable as a key for fertilizer recommendations, but one must consider past practices as influencing present applications.

Field Changes in Grades of Tomatoes during Ripening.

by

T. D. Holder, University of Maryland

In connection with the use of U.S. grades for raw tomatoes, studies were begun in 1932 to determine the percentages of the different grades of fruit produced under field conditions. The tomatoes on approximately 100 plants of a selection known as "White's #4" were tagged as they were turning from green to red. Records were taken weekly of the condition of each fruit. A summary of the grades reached is shown below.

	Number	Percentage
Fruit reaching U.S. No. 1 grade	554	63.4
Fruit reaching U. S. No. 2 grade but not developing further	234	26.8
Fruit remaining as culls	86	9.8

No. 2 tomatoes which failed to reach the No. 1 grade and later turned to culls and the tagged fruit which never reached a grade higher than culls are listed below according to the factors responsible for the conditions.

	No. 2's		Culls	
	Number	Percent	Number	Percent
Rots	145	62.0	71	82.6
Sunscald	42	17.9	5	5.8
Cracks	40	17.1	2	2.3
Mechanical injuries	4	1.7	3	3.5
Not determined	3	1.3	5	5.8

The No. 2 fruit listed above were allowed to remain on the vines until they deteriorated to culls. Of this number, 43.5% remained No. 2's for more than one week and 7.05% for more than two weeks. At the first observation date 64 No. 1 fruit were not picked. One week later 46.8% were still No. 1's.

The highest quality fruit was produced during periods of light rainfall accompanied by average daily temperatures ranging from 60 to 70 degrees. The studies gave further evidence that tomatoes will remain on the vine for a longer period of time than is generally acknowledged.

CORN

Chairman - J. Roscoe Wheatley, Easton, Maryland

Sweet Corn Grading Studies of the Raw Product

by

E. P. Walls, University of Maryland

During the summer of 1932 the State Department of Markets conducted studies of sweet corn deliveries to packing houses with the idea of ascertaining how the Maryland product would fit in with the tentative grades suggested by the U. S. Bureau of Agricultural Economics. The studies were made throughout the canning season in Talbot, Harford, Carroll and Frederick Counties. The two principal defects found, in the order of their importance, were poor filling of the ears and injury from the corn earworm.

Fifty-pound samples, in the husk, were taken from each load examined and separated into the different grades. The following table summarizes the results of the studies.

Cannery	Variety	No. of Samples	No. 1 Milk Stage %	No. 1 Early dough Stage %	No. 2 %	Culls %	Husks %	Total %
A	Shoe Peg	56	44.7	7.7	9.2	5.7	32.7	100
B	Stowell's Evergreen	26	42.1	8.2	11.4	5.9	32.4	100
C	Stowell's Evergreen	13	45.6	2.4	13.4	6.3	32.3	100
C	Country Gentleman	3	35.3	5.3	17.6	8.6	33.2	100
D	Stowell's Evergreen	42	33.7	8.0	14.2	11.3	32.8	100
D	Nar. Grain Evergreen	2	34.0	12.5	16.5	4.5	32.5	100
D	Bantam Evergreen	3	24.0	10.3	12.3	20.5	32.9	100
All canneries	All varieties	145	40.4	7.5	11.8	7.9	32.4	100

Further analysis of results shows that, of the 145 loads from which samples were taken, 110 loads had a percentage of culls ranging from 0 to 9%; 24 loads, 10 to 19%; 8 loads, 20 to 29%; 1 load, 30 to 39%; and 2 loads, 40% or more. On the basis of results obtained, one ton of sweet corn would produce

808 lbs. of No. 1 milk stage, 150 lbs. of No. 1 early dough stage, 236 lbs. of No. 2, and 158 lbs. of culls. The remaining 648 lbs. in the ton consisted of husks.

Relatively few samples were obtained of several of the varieties listed, but it is felt that the results secured with Shoe Peg and Stowell's Evergreen are quite representative of the product and furnish an accurate cross-section of the quality of sweet corn delivered to Maryland factories in 1932.

Corn Grades as Affecting the Whole Grain Pack

Discussion led by

F. O. Mitchell, Perryman, Maryland

The grading studies conducted in the whole-grain section gave an indication of how to better determine the proper pulling date in the field and the method shows promise. However, at least part of the whole-grain packers are not ready at this time to adopt the system for buying, feeling that it would not be fair to penalize the farmer for earworm injury when the canner specifies the time for planting. The point was brought out, however, that in using a graded system the load with high worm injury should and would be docked but the price for good corn would be boosted above the flat-rate price.

The percentage of husks might vary according to the fill of the kernels and would probably vary in any one year for different pieces of land.

Some Factors Affecting Yield and Quality of Canning Corn

by

J. E. Metzger, University of Maryland

This report is based on work conducted from 1929 to 1932, dealing with the general problem of fertilization of sweet corn to be used for canning purposes.

The indications are that the ratio of the units of nitrogen to units of phosphorus should be about 1 to 4 for the Piedmont area and 1 to 3 for the Coastal Plains. In both localities the ratio of phosphorus to potash should be about 2 to 1. An analysis of 3-12-6 is recommended for Western Maryland and a 4-12-6 for the Coastal Plains, unless large quantities of manure are used in addition to the fertilizer. Increased yields were secured with quantities as high as 800 lbs. per acre, but net returns decreased for applications of more than 400 lbs. Applications of 800 and 1000 lbs. per acre actually injured the crop in some seasons, causing considerable "firing" of the lower leaves. On most farms it would be best to place the fertilizer in a narrow band near the hill of corn rather than broadcast it over the field before planting.

The general effects of high quantities of nitrogen seem to be a delay in maturity, an increase in tonnage without increasing the cut corn yield, and a greater irregularity in the maturity of the crop than where relatively high phosphorus in proportion to nitrogen is used. Some increases in yield were secured at both Easton and Westminster for the larger amounts of potash. It would seem, however, that these increases would not warrant using fertilizer having more potassium than is in a 2 to 1 (phosphorus and potash) ratio. High potash applications resulted in larger amounts of crude fiber and the puncture test indicated greater toughness than for low applications. The latter, however, may have been merely a matter of stage of maturity.

Growth and development in sweet corn is influenced so much by the kind and amount of fertilizer used that it becomes a factor of first importance to both canners and growers. Probably no other factor influences either field or canning house yields as much as does the fertilizer.

The Corn Earworm

by

Dr. E. N. Cory, University of Maryland.

The life and seasonal history of the corn earworm was discussed particularly to refresh the minds of the canners with regard to the method of over-wintering and the building up of the population in the late portion of the season.

A general review of all fields of research in regard to this insect was presented to show the many angles of the problem that have already been studied and to show that Dr. Ditman has been checking over all of the work of previous investigators with the hope of finding some loop-hole that would permit an active drive against some vulnerable stage of the insect. All stages of the activities and behavior of the insect have been studied very carefully, with the exception of the behavior of the adult. This first received considerable attention during the past year, particularly with regard to repellents and attrahents, reaction to lights of different wave lengths and intensities, and the nutrition of the adult. Studies of the fat metabolism in relation to hibernation were continued.

In addition to this work, the studies suggested by the Canners' Committee on the relation of the husk protection to earworm infestation were conducted in cooperation with the Agronomy Department, who in turn cooperated with various canners and seed-producing agencies. Study was made of over 13,000 individual ears of corn in relation to the tightness and length of husk, the percentage of infestation and the percentage of grain injury in eight different categories. Long husks showed a reduction in the relative and actual infestation and it is quite possible that in order to secure relative immunity from earworm infestation it will be necessary to sacrifice yield somewhat. The results of these tests are being correlated with results of the Agronomy Department as to other desirable factors of the many types of corn they are carrying in their breeding plots.

PEAS

Chairman - F. Hall Wrightson, Easton, Maryland

Pea Wilt - The Value of Resistant Varieties

by

C. E. Temple, University of Maryland.

The wilt disease occurs in a number of sections of the United States, including Maryland. It may occur in small, more or less circular spots in a field, but often spreads until the entire field is infested. Once the disease is established in a field, it remains for many years and results in serious losses of the crop if susceptible varieties are used. The disease may be present in the soil for several years, however, before it shows up to any extent in the crop. Affected plants which survive mature early and the resulting crop is of low quality.

Investigational work was begun in Maryland in 1918 to select strains of Alaska resistant to the disease. A strain known as "Maryland Alaska" has been developed and increased. Seed stock has been prorated to seed growers according to the volume of business done in the State. Quantities of the seed have been distributed to canners for trials in 1933. The strain is highly resistant to wilt and is uniform in type and maturity. A number of wilt-resistant strains have been developed in other states.

Wilt became so serious in some sections of Wisconsin that pea growing was discontinued until resistant varieties were developed. In field trials on infested soil in Maryland last year resistant strains yielded nearly one-third more than susceptible strains. Within two years there should be a sufficient quantity of seed of wilt-resistant strains to supply all demand.

Reducing Losses from Root Rot with Fertilizers

by

Dr. C. M. Haenseler, New Jersey Agricultural Experiment Station

Root rots are caused by a number of different organisms but one organism is responsible for the principal injury. This organism lives over in the soil and infection occurs underground, making it difficult to control the disease with the usual control measures. Crop rotation reduces losses but does not eliminate the disease after it has become established. Much work has been directed towards the production of resistant strains, but so far none have been developed.

Observations showed that certain fields gave good crops even though all the plants were affected with root rot. In most cases these fields had been heavily fertilized. The observations led to tests to determine the influence of fertilizer practices on yields under root rot conditions. The work was conducted primarily with market-garden peas but the results should apply to peas for canning, also. Row applications of from 1000 to 1200 lbs. per acre of a complete fertilizer, applied before planting, have given remarkable increases in yield.

It has not been determined if these increases are due simply to nutrition or partially to disease control. Observations indicate, however, that at least a part of the benefits is due to control of the organism. The stage of the organism causing infection is very sensitive to the action of chemicals and it may be that it is this action of the fertilizer which results in a part of the crop increase.

Work in New York has shown that the use of 1600 lbs. of gypsum together with relatively smaller amounts of fertilizer has given outstanding increases in yield under root rot conditions and this treatment is cheaper than the use of the larger amounts of fertilizer.

Due to the fact that the organism does not germinate and cause infection until the soil begins to warm up, the heavy fertilizer applications give the plant a start before the organism becomes active. Early planting might have a somewhat similar effect. Even where the heaviest applications were made, infections usually occurred before the end of the season.

By combining the use of wilt-resistant strains and heavy fertilizer applications, both wilt and root rot may be commercially controlled.

The Practical Use of Commercial Fertilizers

by

T. H. White, University of Maryland

The scarcity of animal manures makes the use of so-called commercial fertilizers more and more necessary. There seems to be little reason for using incomplete fertilizers unless manure has been used rather liberally. According to the survey conducted by DeVault and Walker, 33 different analyses of fertilizers were used by Maryland farmers, the most popular being the 2-8-5. The use of 400 lbs. per acre of a mixture containing a larger proportion of nitrogen than is now generally used seems justified. Mixtures varying from 5-8-3 to 7-6-5 seem very promising. In work at Ridgely the highest grade fertilizers made the most profit.

Manure has given the best results with peas when applied to the preceding crop in the rotation. In work at Ridgely peas made a better crop after tomatoes than after eight other crops. Thus, it would seem well to apply the manure to the tomato crop and follow with peas the next spring.

Tests have shown that 400 lbs. of fertilizer give the greatest increase in yield per pound of fertilizer used, although up to 1200 lbs. give increased yields. From this it may be seen that a greater quantity of produce can be secured from two acres of land fertilized with 800 lbs. of fertilizer than from one acre fertilized with the same amount. Similar work has been conducted with manure applications. Although the yields were invariably larger when the larger amounts were used, the profits from the crops did not follow the ascending scale of the applications. The conclusion has been reached that on most crops the profitable amounts of commercial fertilizer to use are somewhere around 600 lbs. per acre, and, in the case of stable manure, six to eight tons.

Experiments for several seasons indicate that peas do not yield well on land where green material is turned under. Since the crop must be planted early it would seem that green manures are not practicable for peas.

When normal amounts are used, it is generally conceded that it is better to drill and harrow the fertilizer into the soil before seeding the peas. There seems to be no advantage to the crop in fall plowing. On heavy land, particularly, the yield may be decreased considerably. In addition, spring-plowed land may be prepared for seeding with less trouble and delay in waiting for the soil to dry out than fall-plowed land.

In conclusion it would seem that, where tomatoes and peas are grown in the rotation, the manure should be applied to the tomato crop. The tomatoes should be followed by peas on spring-plowed land, fertilized with 400 to 600 lbs. of a 6-6-5 fertilizer.

Observations on Practical Means of Improving Soil Fertility and Yields

by

L. M. Goodwin, American Can Company

Under present economic conditions it is generally recognized that it is of paramount importance to eliminate all possible factors which may lead to financial loss. It is entirely apparent that the only means of realizing a profit on the growing operations and at the same time securing a good quality raw product is through high yields per acre. It is not the purpose of this statement, however, to stimulate a greater total volume of canning crops production.

Soil fertility is the factor exerting the greatest influence on the final yield. High soil fertility means a soil high in humus content and retentive of moisture. The humus content of most of our soils has been depleted by over cropping. Dr. Cordner has pointed out that lima beans set heavier on soils with a high humus content than with a low content. Dr. Boswell, in his work with peas in Maryland, has shown the following important relationships; first, the yield is in direct proportion to the size of the plant; second, the size of the plant is in direct proportion to the nodule formation; and, third, the nodule formation is in direct proportion to the soil fertility or humus content of the soil. Therefore, the soil organic matter is definitely correlated with the yield, and, furthermore, is definitely associated with moisture retention and the supply of plant food elements.

The only two practical sources of soil organic matter are manure and green manure crops. The available supply of manure in most sections is not sufficient to maintain the soil fertility, so it appears that green crops plowed down are the only practical resort. At this time of low land values, labor and seed costs, the possible margin of profit with all crops is small, and it would seem especially practical now to bring about soil improvement by regularly sparing the land from cash crop cultivation long enough to grow and turn down cover crops. In any event it seems increasingly necessary to look ahead of immediate results. The trend of economic conditions points clearly to increased intersectional and no doubt international competition in the field of canning crops production, not to mention the steady increase in production and distribution of southern-grown fresh vegetables which are in direct competition with canned foods.

COOPERATIVE EXTENSION WORK
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STATE OF MARYLAND

UNIVERSITY OF MARYLAND
U. S. DEPARTMENT OF AGRICULTURE
COOPERATING

EXTENSION SERVICE

VEGETABLE GROWERS' NEWS LETTER

Issued by
W. R. Ballard,
Secretary-Treasurer.

Vol. X. No. 4. College Park, Maryland. April, 1933

The New Cantaloupe Law: It is not yet possible to give all the details of the law passed by the recent Legislature of Maryland. In general it prohibits the selling or shipping of cantaloupes unless the fruits are mature. The determination of the term "mature" is difficult to describe in words, but growers and shippers who handle this crop know pretty well what is the intent of the law. The law is designed, primarily, to prevent the dumping of green or immature melons on the market early in the season. Such methods play havoc with the main movements of cantaloupes from Maryland's producing sections.

Those Cutworms: Poison bait seems to be about the best treatment for these destructive pests. The following formula makes a satisfactory mixture for this purpose:

Bran	8 pounds
Paris green	4 ounces
Salt	2 ounces
Cheap syrup	1 pint

Mix the ingredients thoroughly then add the syrup and enough water to make a moist, crumbly mash.

Some growers find it advantageous to scatter this bait thinly over the field a day or so before tomato or other plants, are set into the field. This kills many of the worms before they have opportunity to attack the cultivated plants. It is well known that this pest is usually most abundant in freshly plowed sod land and it is particularly important to take precautionary measures in such fields.

Sweet Potato Recommendations

1. If black rot, scurf or stem rot was prevalent in your fields or storage houses get certified seed for bedding purposes.

2. Select seed carefully, discarding diseased and injured roots.

3. Treat seed. Use Bichloride of Mercury 1-1000 (1 oz. to 30 gallons of water). Soak seed 10 minutes and bed immediately.

4. Use clean soil or sand.

5. Cover roots with one inch of soil or sand -- no more.

6. Dip roots of plants in mercurial before setting out. If Semasan Bel is used for plant treatment it should be diluted at the rate of one pound to two and one-half gallons of water. If Improved Semesan Bel is used it should be diluted at the rate of one pound to seven and one-half gallons of water.

7. If pock was severe in soil last year or year before, apply sulphur to soil at rate of 200 pounds per acre.

8. Do not set plants in fields where block rot, stem rot or scurf were severe last year.

9. Select seed in fall if any stem rot was present in your field.

10. Store seed potatoes in separate compartment in storage house.

The Annual Proceedings: The Annual Proceedings of the Maryland Vegetable Growers' are being distributed to paid up members.

Under separate cover the Report of the Canning School is being sent all members.

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VEGETABLE GROWERS' NEWS LETTER

Issued by
W. R. Ballard,
Secretary-Treasurer.

Vol. X. No. 5. College Park, Maryland. May, 1933.

Treating Sweet Potato Sprouts: Treating sweet potato sprouts with mercury compounds just before planting reduced the amount of stem rot disease from one-eighth to one-half and increased the yield from thirty to sixty bushels to the acre in tests conducted last year in Wicomico and Dorchester counties, according to Dr. R. A. Jehle, plant pathologist of the University of Maryland Extension Service. While this treatment has, in many instances, proved entirely satisfactory, it is pointed out that if too strong a solution is used or if certain weather conditions prevail at the time of treatment, injury may result. Therefore, it is recommended only where the grower has had trouble with stem rot and is willing to risk possible injury to the plants in order to control the disease.

Either of two compounds may be used in treating for stem rot, according to Dr. Jehle. If Semesan Bel, which is composed of six percent of chlorophenol mercury and two percent of nitrophenol mercury is used it should be made up at the rate of one pound to two and one-half gallons of water. On the other hand, Improved Semesan Bel, composed of twelve percent of nitrophenol mercury and two percent of chlorophenol mercury, may be used also and should be applied at the rate of one pound to seven and one-half gallons of water.

In either case, the roots should be dipped into the solution just before the plants are set in the field. The only injury thus far recorded in Maryland through the use of the mercury compounds was when the solution used was stronger than that given above.

Stewart's Disease of Sweet Corn: Professor Charles Chupp, Plant Pathologist of Cornell University, writing in The Canner indicates that this disease is spreading and becoming more serious. The early varieties seem to be particularly susceptible to this bacterial trouble. It lives over on the affected stalks and seems to be spread by the twelve-spotted cucumber beetle and by certain flea beetles. The later varieties such as Stowell's seem to be more resistant than the early sorts.

Sanitation, rotation, and the use of resistant varieties are the recommended control measures. Work of the U. S. Department of Agriculture in breeding resistant strains is giving considerable promise and some seedsmen already have seed available.

The Weather: The weather report at College Park indicates that during the first twenty days of April it rained on the average every other day, with a total rainfall of 5.94 inches. There followed an interval of about twelve days without rain. Those who were in a position to take advantage of this spell were able to get in the early crops and will profit thereby. Of course the character of the soil has a good deal to do with the possibility of working it quickly after rainy spells. Fall plowing seems to be an advantage with heavy soils where there is not too much danger of washing, particularly where they are to be used for early crops.

During the month of May it has rained eight days in eighteen, thus keeping heavy soils continuously too wet to work. In this time 3.85 inches of rain were recorded.

Where crops were planted in good season the rains have stimulated growth. In many cases, however, poor stands were secured. The farmer with all the vicissitudes which beset other business enterprises is in addition the victim of weather conditions beyond his control. Even the most experienced growers miss it occasionally. In unfavorable seasons one must be "Johnny on the spot" to take every advantage of every break in the weather conditions and to "make hay while the sun shines."

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VEGETABLE GROWERS' NEWS LETTER

Issued by
W. R. Ballard,
Secretary-Treasurer.

Vol. X. No. 6. College Park, Maryland. June, 1933

Pea Field Day: The field meeting of pea canners, growers, and specialists was held at the farm of A. W. Fesser Company, Silver Run, Maryland on Wednesday, June 14th. About forty-five persons were in attendance. These included representatives of the American Can Company, the Seed Trade, Canners, growers and the University of Maryland. The Maryland Alaska and other resistant strains showed up remarkably well when commercial strains alongside were completely killed by the pea wilt. The fertilizer plots gave good results, the abundant rains favoring the utilization of applications.

Potato Field Day: The tenth annual field day was held at the W. T. Pilchard farm, Pocomoke on Friday, June 16th. Seventy-five or eighty people were present to inspect the plots and to listen to remarks by the speakers. Dr. T. B. Symons, Director of the Extension Service reviewed the development and accomplishments of the demonstration project and urged the potato growers to cooperate for their mutual benefit.

E. H. Schmidt of the Agronomy Department explained the series of fertilizer plots, while Dr. R. A. Jehle explained the plots testing seed sources and those which included the new varieties.

Dr. J. H.Beaumont and Dr. F. J. Stevenson discussed the cooperative Potato Breeding project in which the U.S. Department of Agriculture is working with the states to develop new varieties for specific needs. Disease resistance is one of the factors given consideration.

A demonstration was given in the field spraying of potatoes.

Mr. Sam Crosthwait called attention to the serious injury to tubers caused by the flea beetle and to the tests being made to develop control measures.

The general fertilizer recommendations are for applications of 1800 to 2000 pounds of a 6-6-5 mixture. It is desirable that 20 percent of the nitrogen should come from an organic source such as fish, 20 percent from nitrate of soda and 60 percent from sulfate of ammonia.

Bordeaux calcium arsenate has been the most effective spray material used.

Results of ten year's tests of seed sources as given by Dr. Jehle have indicated that:

1. The lowest yields have always been obtained from sources of seed which produced the largest number of plants affected with virus diseases such as leaf roll and mosaic. Hence, only certified seed is recommended for planting the early potato crop in Worcester County.

2. Large yields can be obtained from either northern grown, mountain grown or home grown seed, but northern and mountain grown seed comes up a little earlier, matures a little earlier and yields a little more than home grown seed. However, second crop home grown seed is smaller and more uniform in size and goes farther in planting than northern grown and mountain grown seed. Furthermore, it is rarely if ever affected with black leg and vascular discoloration, both of which are not uncommon even in the best sources of northern and mountain grown seed.

3. A new variety of potatoes originated by the U. S. Dept. of Agriculture and known as the Katahdin gave promising results last year as a variety to be grown in combination with the Irish Cobbler variety. It was ten days to two weeks later than the Cobbler, but yielded 45 bushels per acre more of primes than the largest yielding plot of Irish Cobblers.

4. There are indications that seed grown on the Eastern Shore as a second crop over a period of several years will give poor yields even if free from virus diseases. The use of mountain or northern grown seed is, therefore, recommended for the production of second crop home grown seed stock pending further investigations which are being conducted on the maintenance of home grown seed stock.

Digging will soon begin. Prices being received by the first shipments from the Virginia Counties have been quite satisfactory being around $3.00 per barrel.

Potato fields in Worcester need rain but are giving promise of fairly good yields.

VEGETABLE GROWERS' NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard, Secretary-Treasurer.

Vol. X. No. 7. College Park, Maryland. July, 1933

An Interesting Phenomenon: The number of troubles to which crops are subject seem to be unlimited. This fact makes it extremely difficult at times to properly diagnose unusual cases.

A case in point was recently observed in Garrett County in a potato field. In a field which otherwise appeared to be in excellent health, a small area was found in which every plant was killed to the ground although the stems below the surface seemed to be unaffected. In fact after a few days new sprouts developed which appeared to be normal. Observation of all the effects visible pointed clearly to the fact that the trouble was due to a stroke of lightning. The injured area was circular in extent and included at one point a section of a corn field. The corn plants showed much the same effect as did the potatoes but were not hurt as badly.

Similar troubles have been observed in fields of tomatoes and of other crops.

Earth Walls: Under the title "Rammed Earth Walls for Buildings" there was issued in 1926 Farmers' Bulletin No. 1500. Structures of this material have been in use in Europe for centuries but the method has never been adopted to any appreciable extent in America. There are two houses in the vicinity of Washington, D. C. constructed in this way. One of these is said to have been built in 1773.

The method is different from the western adobe in that the earth used is only moist enough to crumble. Forms much as is used for concrete are used and the sifted soil rammed down to about one-half its volume. When the form is filled it is raised and another layer added.

Buildings thus constructed are said to be warm in winter and cool in summer. Most any soil except sands can be used but the subsoil without organic matter is preferred. To prevent the action of moisture such walls must have a concrete base and surfaces exposed to the weather must be protected by some impervious coating. It would seem that this material would have advantages over that of other materials particularly in the construction of storage houses where a uniform temperature is important. The cost is considerably less than that of brick or frame construction because of the low cost of material and the fact that after the forms are constructed most of the work could be done by unskilled labor.

It is quite likely that other farm structures could be built of this material advantageously. The bulletin mentioned above gives full details of construction, and a copy may be had for a few cents from the Superintendent of Public Documents, Government Printing Office, Washington, D. C.

New Method of Irrigating: The Michigan Board of Agriculture has patented a new method of irrigating crops. It consists of a hose which with a pressure of about four pounds per square inch, allows the water to ooze out between the pores of the heavy, specially woven, porous fabric. The hose is manufactured by Ozoo, Inc., Howell, Michigan, under the trade name of Ozoo. The manufacturers make many claims for the method but one advantage which seems apparent is that high pressures are not needed to get a good distribution of the water. With good pressures it is a question whether it would have any advantages over the overhead irrigating systems.

Early Potatoes Bring Good Returns: The early potato crop on the Eastern Shore has suffered because of lack of rains so that the yields are only fair. Prices, however, have been satisfactory and some of the growers will make a little money. Market quotations are around $3.75 to $4.00 per barrel, although a higher price was realized in some sales.

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VEGETABLE GROWERS' NEWS LETTER

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard, Secretary-Treasurer.

Vol. X. No. 8. College Park, Maryland. August, 1933

Diseases of the Tomato: Bulletin No. 345 has just been issued by the Maryland Experiment Station. It is divided into three parts as follows: Part I. The Mosaic Diseases of Tomatoes; Part II. The Fusarium Wilt of Tomatoes; Part III. The Control of Tomato Diseases.

Part I, by J. W. Heuberger and J. B. S. Norton describes a series of experiments which throw considerable new light on this virus disease commonly called mosaic. It acts much like diseases known to be caused by organisms, but if an organism is involved it is too small to be seen by the highest powered microscope and so small that it passes through filters which keep back bacteria.

The common forms of mosaic on tomato appear to be identical with the tobacco mosaic. It is easily spread by handling the plants, through cultivation, and by insects. When infection occurs early in the life of the plant the injury is quite marked. Later infections cause a dwarfing of the plant and some decrease in the yield of fruit.

Part II, by J. B. S. Norton, discusses the Fusarium wilt, its prevalence in the state, and its destructive nature. The principal means of fighting this disease is by the selection of resistant strains and a brief history is given of the development of the resistant varieties.

In Part III, J. B. S. Norton and H. A. Hunter bring together in brief form helpful information regarding control measures of the more common troubles affecting the tomato in Maryland.

A copy of this bulletin may be secured by addressing the Experiment Station, College Park, Maryland.

Codes the Order of the Day: Codes for all sorts of groups are being brought forth with bewildering frequency. Perhaps when some of the leaders are out of the way the vegetable growers will have an inning. Apparently some thought has been given already to this group, but it is quite apparent that there are many complications which may arise in this field.

There are undoubtedly inequalities and injustices in the marketing phase which could well be ironed out to the advantage of at least the producing group. It is quite evident from a reading of the interpretations of the National Recovery Administration that agricultural labor is exempt from provisions of the Act. Anything which cannot be clearly shown to be concerned with production of agricultural crops would come under either the agreement or a code. An agreement may be entered into by an individual or trade group to shorten hours of employment and raise wages but this would be superseded by codes when adopted by the industry as a whole.

Farm Prices Rise: The Bureau of Labor Statistics, Department of Labor reports that during July the wholesale Index prices rose 6-3/4 per cent. The farm products group was in the lead with an increase of almost 13 per cent with textiles in second place. The potato growers of Maryland and some other groups have been making a little money this year and naturally are in a little more cheerful mood than formerly.

VEGETABLE GROWERS NEWS LETTER

Issued by
The Maryland Vegetable Growers Association,
W. R. Ballard, Secretary-Treasurer.

Vol. X. No. 9. College Park, Maryland. September, 1933

Flood Damage Considerable: The recent floods in various sections of the State have done an immense amount of damage to growing crops. Worse than this, perhaps, is the damage done to fields where in certain instances most of the top soil has been washed away or fields have been covered with a layer of sand or gravel. In other cases deep gulleys have been formed. Crops can be renewed, but the loss of top soil is a much more serious matter. Erosion even in ordinary seasons is more serious than many growers realize. In some states considerable attention is being given to terracing to prevent serious loss from soil erosion. There are many sections of Maryland where this operation would be worth considering.

Potato Shows: It is not known as yet whether funds will be available for offering prizes for certified potato exhibits this fall and winter or not. Depleted budgets may make it necessary to curtail this feature. If it is at all possible the shows will be sponsored.

Programs for the annual meetings will be in order before a great while, and suggestions from the members will be thankfully received by the secretary.

Certification of Potatoes (by R. A. Jehle, Extension Plant Pathologist): Field inspections of seed potatoes in Garrett and Allegany County have just been completed. Results of these inspections indicate that there will be a good supply of mountain grown seed potatoes of superior quality. The total number of acres inspected was 223.25 grown on 81 farms, compared with 188.25 acres inspected last year grown on 93 farms. Of the total number of acres inspected this year 155 acres grown on 60 farms passed the inspection requirements this year compared with 106.75 acres grown on 63 farms last year. Thirty acres of the potatoes which passed certification requirements are being grown by twenty-three 4-H Club boys under the cooperation of the University of Maryland Extension Service, Vocational Agricultural teachers, and the Baltimore and Ohio Railroad. The most striking things brought out by the inspection were the decrease in the number of applicants disqualified and the increase in the acreage which passed certification requirements. The interesting thing about this increase in acreage was that it was due almost exclusively to the increased acreage of the Smooth Rural variety entered for certification. Last year 73 acres of Rural Russett potatoes and 30.50 acres of Smooth Rural potatoes passed certification requirements. This year 71.75 acres of Rural Russet potatoes and 72 acres of Smooth Rural potatoes passed certification requirements. Other varieties which passed certification requirements were Irish Cobbler, Green Mountain, Katahdin, Bloss Triumph, Up-To-Date, and Spaulding Rose. Potato growers who are interested in securing seed of superior quality are advised to place their orders early since much certified seed is likely to be sold for table stock this fall if prices remain high. Growers interested in purchasing certified seed should write to J. H. Carter, County Agent, Oakland, or R. F. McHenry, County Agent, Cumberland, Maryland.

VEGETABLE GROWERS NEWS LETTER

Issued by the
Maryland Vegetable Growers' Association
W. R. Ballard, Secretary-Treasurer.

Vol. X. No. 10. College Park, Maryland. October, 1933

That Dry Sweet Potato: Quite frequently one hears the question, "Why can't we get dry sweet potatoes any more?" The answer perhaps is that the moist types known as yams have been so boomed in the South that they have in a large measure captured the markets and have gradually forced the Maryland growers to plant more Nancy Hall, Porto Rico and similar varieties and to curtail plantings of the Jersey type.

There is evidently a considerable number of people who are loathe to see the dry type disappear but they are probably not sufficiently organized or insistent to check the tendency in the opposite direction. Mr. Thomas H. White at the Maryland Experiment Station, has in recent years made some selections from the Big Stem Jersey. The golden fleshed strain now known on the market as the Maryland Golden Sweet seems to have captured the popular fancy and is rapidly establishing a place in the markets. Because of its rich golden yellow color it has become popular with the canners as a canned product.

More recently Mr. White has selected a type with a nearly white flesh color. This appears to have a much drier texture than the yellow one. It is possible that growers with roadside markets who have calls for the dry type might find this new selection worthy of a trial.

The Annual Meetings: Because of drastic cuts in the budget of the Agricultural Society it appears that funds will not be available for paying the expenses of speakers of note for the Vegetable Growers' Meetings in January. It is hoped, however, that by making use of local talent, and by having live topics which the growers themselves will volunteer to discuss, that the meetings can still be both interesting and valuable. Here is the opportunity for every member to suggest subjects they would like to have discussed. Such suggestions will be particularly helpful in formulating a program.

Are you having marketing difficulties, trouble with diseases and insects, or other cultural problems? Do you want to hear discussions of marketing agreements and codes? Do you want to learn of the latest developments in tools and equipment? Would you like to have a better understanding of the economic problems confronting the nation? Let's have your reaction to these questions and we will try to develop the program along the lines of your interests.

Who Has a Solution? One of the greatest problems in connection with the Annual Meetings is that too many and too diverse groups are meeting at the same time. Sometimes growers find it difficult to decide which of five or six different meetings to attend. Many fruit growers, general farmers, poultrymen, and others would be interested in certain discussions in the vegetable meetings, but are tied up with other organizations and unable to take advantage of the opportunity. If any one has a solution of this problem in relation to the Vegetable Growers' Association, the Secretary would be pleased to know of it. There is undoubtedly some advantages in all groups meeting together, and it may be that the present unsatisfactory situation is the best compromise which can be made.

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VEGETABLE GROWERS' NEWS LETTER

EXTENSION SERVICE

Issued by the
Maryland Vegetable Growers' Association
W.R. Ballard, Secretary-Treasurer.

Vol. X. No. 11 College Park, Md. November, 1933.

The Potato Show: There has been considerable question as to whether it would be possible to have the exhibit of certified potatoes as in the past, but it now begins to look as though money may be available for a restricted list. All eligible exhibitors will be notified as to details, but it is probable that prizes will be limited to first, second, and third in five classes as follows:

Class I -- Irish Cobblers
Class II -- Smooth Rural
Class III-- Russet Rural
Class IV -- Any other variety
Class V -- Sweet Potatoes, any variety

It is hoped that all growers who are eligible will make an attempt to exhibit, even though the announcement is late in appearing.

In order to make the entries easier the required number of tubers has been cut from thirty-two to sixteen.

Program For Annual Meetings: The program for the annual meetings of the Association to be held on Wednesday and Thursday, January 10 and 11 is beginning to take form. It is planned to present this program in the December news letter.

Available Stocks of Certified Potatoes: Dr. R. A. Jehle has recently tabulated the results of the certification project for the past season. Mountain grown stocks produced by 61 growers on approximately 150 acres amount in round numbers to 44,000 bushels. This is twenty times the amount produced ten years ago.

Late grown varieties with the exception of Irish Cobblers amount to 3,853 bushels produced on about 25 acres by ten growers.

The production of Irish Cobblers amounted to over 24,000 bushels from 200 acres. There were 52 growers of Irish Cobbler.

It appears that the attempt to bring back the McCormick variety is beginning to have some results as there were 49 bushels eligible for certification. The new variety, Katahdin is developing with 217 bushels available for certification.

Growers desiring to secure certified stock should write to Dr. R. A. Jehle, College Park, Maryland, for detailed information as to

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varieties available and location of stocks.

You Will Want To Hear This: Dr. J. E. Metzger, who is on the Fertilizer Committee, is to tell us how the fertilizer code is likely to affect the vegetable grower, and will lead the discussion as to what adjustments the grower will have to make to meet the new situation. Be sure to attend the annual meetings and get the low down on this important subject. Come prepared to ask questions and to take part in the discussion.

Mushrooms: A number of requests for information on the culture of this crop has been received recently. Does this mean that some one has been writing a particularly alluring article about the profits to be made in this business or is it due to the searchof growers for a crop to bring in a little extra cash?

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Vol. X. No. 12. College Park, Md. December, 1933

Stewart's Disease of Corn: This is a bacterial disease of corn which is becoming prevalent in the middle and southern states. Transmission of the disease is accomplished largely through infected seed, and external applications of disinfectants appear to be of little value in controlling the disease. Tests in Maryland show definitely that flea beetles are responsible for the main summer spread of this bacterial wilt. The 12-spotted cucumber beetle is capable of harboring the organism in its alimentary tract for considerable periods of time, but it does not appear to be an important factor in the spread of the disease.

Varieties of sweet corn vary greatly in their resistance to the disease. Golden Bantam and other short season sorts seem more susceptible than Stowell's Evergreen. Weather conditions influence to some extent the infection and development of the disease. Apparently overwintering of the organism in the soil is of minor importance.

Laboratory tests indicate that dry-heat sterilization at temperatures which do not injure the germ has killed all the bacteria without materially reducing the rate of germination or vigor of the plants.

Outlook for 1934: Comments in the 1934 Agricultural Outlook indicate that the total plantings of Irish potatoes may be increased two percent above the 1933 average. Yields for 1933 were the smallest since 1925. Demand for potatoes is inelastic and the consumption has gradually been declining for the last ten years. Acreage increases in the middle area to which Maryland belongs may amount to sixteen percent over that of 1933. This would bring the acreage closer to the average prior to last year.

Supplies now on hand of truck crops for market are considerably lower than usual, which will probably stimulate increased plantings in 1934.

Some slight increase is expected in the acreage of cabbage in the second-early States. This is also true of tomatoes due to decreased acreage in 1933 and low yields.

Prices and demand for various vegetable crops will no doubt hinge considerably upon purchasing power which in turn will depend upon the degree of recovery reached during the season.